

Knowledge of Danger Signs during Pregnancy: Recognition and Responses to Danger Signs among Women in Rural Ghana

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Study Objectives:

Obstetric complications that occur during pregnancy greatly add to maternal mortality worldwide, yet many of these complications can be easily prevented with access to obstetric care. Proper antenatal education is an important component of obtaining obstetric care, as women who are educated about when to seek care from a medical professional are more likely to seek care in a timely manner.

To further explore antenatal education and maternal health in a rural low-resource setting, investigators undertook a study to:

- (i) Assess the recognition and understanding of six severe danger signs (abdominal pains, anemia, headache, swelling, vaginal bleeding, and vomiting) indicative of a complication during pregnancy among women attending antenatal clinics (ANC) in the Kassena-Nankana (KND) and Kassena-Nankana West (KNWD) districts of the Upper East region of Ghana
- (ii) Assess the extent to which these pregnant women act upon identified danger signs given the severity of their symptoms
- (iii) Identify the sources of knowledge associated with pregnancy-related danger signs among those pregnant women attending ANC in KND and KNWD.

Methods:

This study interviewed pregnant women living in the KND and the KNWD districts of northern Ghana during November 2009. Women who had experienced a pregnancy (including a stillbirth, abortion, miscarriage, or termination or pregnancy) anytime from 2005 to 2009 and who were currently attending ANC for a current pregnancy or follow-up from a recent pregnancy were eligible for the study. Four trained field workers from the Navrongo Health Research Center conducted a 33-question, close-ended survey to women at six antenatal clinics located within the two districts. The field workers also observed interactions between the health personnel and the pregnant women and interviewed the midwives in order to determine the content and the extent of information provided about danger signs and other pregnancy topics.

A total of 369 women were interviewed, exceeding the sample size required to obtain a 95% confidence level. The results were entered into Epi Data and analyzed using Stata. Data was analyzed using frequencies, cross-tabulations, chi-square distributions, and linear regressions.

Results:

- Objective 1: To assess the recognition and understanding of danger signs among women attending antenatal clinics in the KND and KNWD
 - Based on hypothetical questions on danger signs, the majority of women appeared to recognize the need to go to a hospital or clinic in response to a danger sign during pregnancy.

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- For swelling, headache and vaginal bleeding, knowledge and understanding of danger signs increased with age of the respondent ($p=0.000$)³
- Objective 2: To assess the extent to which women act upon identified danger signs given the severity of their symptoms
 - The most common complication experienced during pregnancy was headache with 61.96% of women recalling experiencing this symptom during their last pregnancy. Number of pregnancies proved to have a significant effect on women's reaction to headache during pregnancy ($p= 0.041$)
 - Of the women who did not seek care immediately upon experiencing a danger sign, 48.06% did not realize their symptom was serious
 - The only symptom where severity had a significant effect on the women's likelihood to seek care was vomiting during pregnancy ($p= 0.001$).
- Objective 3: To determine the sources of knowledge associated with pregnancy-related danger signs among those pregnant women attending ANC
 - 51.09% of the women named their primary source of care as a nurse or midwife, followed by a doctor or community health nurse.
 - Women who were taught about where to go for complications were more likely to seek care faster than women who were not ($p=0.000$).
 - Women who knew that headaches were a danger sign (by recognizing the need to go to a health facility for a hypothetical headache), were likely to seek care faster than women who did not know that headaches were a danger sign ($p=0.014$).
 - Additionally, the sooner a woman realized that her health problem was serious, the sooner she was likely to seek care ($p=0.000$).
 - Antenatal attendance had a significant effect on women's care-seeking behavior related to both fever and abdominal pains ($p = 0.015$ and 0.037 , respectively)
 - Variations exist between antenatal clinics over danger signs and additional pregnancy topics covered by ANC staff
 - Variations also exist between antenatal clinics over how women respond to hypothetical danger signs

Conclusions:

Based on the results of the survey, several factors were significant in relation to the knowledge of danger signs among women in the KND districts during pregnancy. Age and school attendance appeared to be a significant factor in the knowledge and understanding of danger signs. The majority of women who did not seek immediate care for a danger sign were not able to recognize that the symptoms they exhibited were serious. For the majority of women, the primary source of knowledge about obstetric complications was a nurse or a midwife. However, there appear to be marked differences in antenatal education between clinics and clinic staff and resulting knowledge of danger signs and care-seeking behavior by women.

A woman's knowledge of danger signs is related to the source of her information. Our results indicate that there is still unmet need among women attending antenatal clinics to obtain better education on danger signs and obstetric complications. The Kassena-Nankana districts should work to ensure that antenatal clinic education is standardized so that all women receive the same information on what danger signs to be aware of and how to respond to such signs. This standardization may be easier if the danger signs diagram on the back of the Maternal Health Record booklet is consistently used during ANC education.

³ All p-values provided are based on the results of Pearson's chi-square tests for significance